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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/874,415	06/05/2001	Kazuo Maeda	VREX-0021USAAON00	5641

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Reveo, Inc.
85 Executive Blvd.
Elmsford, NY 10523

EXAMINER

CHANG, AUDREY Y

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 09/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/874,415

Applicant(s)

MAEDA ET AL.

Examiner

Audrey Y. Chang

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10 and 12-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10 and 12-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 22 January 2003 is: a) ☐ approved b) ☒ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 1, 2003 has been entered.
2. This Office Action is also in response to applicant's amendment filed on July 1, 2003, which has been entered as paper number 9.
3. By this amendment, the applicant has amended claims 10 and 12-26, has canceled claim 11 and has newly added claims 27-28.
4. Claims 10 and 12-28 remain pending in this application.
5. The **objection** to the **drawings** set forth in the previous Office Action still holds. The examiner does not accept the proposed drawing corrections. The applicant is respectfully noted that certain numerical notations in the figures are not clear and same number has been referred to different elements as stated in the specification.
6. The rejections to the claims under 35 USC 112, First paragraph, set forth in the previous Office Action are withdrawn *with the exception that the applicant fails to provide positive support for the resistor member to be square.*

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Art Unit: 2872

8. **Claims 10 and 12-28 are rejected under 35 U.S.C. 112, first paragraph**, as containing subject matter which was **not** described in the specification in such a way as to **enable** one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 10 has been amended to include the feature of “an image display body for use with a 3D image display”, wherein the specification and the claims **fail** to disclose how does this image display body is capable of displaying image or how could it be used with the 3D image display. The “image display body” does not possess any ability to display image, (none of such abilities have been disclosed in the specification). The “image display body” essentially has regions that have polarizability and regions that do not have polarizability. It is not clear how would this “image display body” be capable of being used with a 3D image display. It is known in the art that 3D image display utilizing polarization coding scheme requires to have a film having regions with a *first polarization state* and regions having a *second polarization state (orthogonal to the first state)* in order for the right eye perspective image and left eye perspective image to be directed to right eye and left eye **respectively** only. In this case the regions that has no polarization effect will allow *both left eye and right eye image pass* through and reach **both** eyes, which therefore **destroys** the stereoscopic image viewing illusion. Similarly the specification and claims **fail** to teach how could the image display body being a “3D image display body”, as recited in claim 22.

Claims 12-28 inherit the rejections from their respective based claims.

Claim Objections

9. Claims 10 and 12-28 are objected to because of the following informalities:

(1) The phrase “a drawn film phase difference functionality” recited in claim 13 is confusing and indefinite since it is not clear what does this phrase means. It is not clear if a *film* is being claimed or “*functionality*” is being claimed here.

Art Unit: 2872

(2) The phrase “the polarizer” recited in claim 26 is indefinite since it lacks proper antecedent basis from its based claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. **Claims 10, 12-26 and newly added claims 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Faris (PN. 6,359,664) in view of the patent issued to Okamoto (PN. 6,147,738).**

Faris teaches a display system for visually displaying a *polarized spatially multiplexed image* (SMI) (48 of Figure 15C) of a *3D object, having left eye image and right eye image mixed within*, for use in stereoscopic viewing, (please see Figure 15C). The stereoscopic viewing is enabled by having a *micropolarizer* (49) having mixed regions of orthogonally polarization states (P1 and P2) that are aligned with the mixed left and right eye image respectively such that the right eye and left eye image are coded with orthogonal polarization states (P1 and P2), (the micropolarizer therefore includes the left eye and right eye image display parts), respectively and then with the help of a spectacle (9) the left and right eye images could be viewed by left and right eye respectively of an observer.

Faris teaches that the *micropolarizer is manufactured by laminating a PVA film (51, Figure 12a) with a CAB or TAC film (52) that together serve as the image display body having phase difference functionality*, and disposing a *photoresist film (53) at specific locations* (please see Figure 12c). The combination is then bleached in a hot humid atmosphere, which implicitly includes *hot water and drying* step afterwards, so that the regions that are *not covered* by the photoresist is exposed to loss the

Art Unit: 2872

polarizability, (please see **Figure 12h**, column 11, lines 61-67). The micropolarizer (49) having alternative regions or patterned regions of polarization states is formed as shown in Figures 12g, 12k and 16a and 16b. The micropolarizer is then *superimposed* or *bonded* with the *spatially multiplexed image* (SMI) that could be provided by either a photographic plate or known display device, (please see column 7), which serves as the display member.

This reference has met all the limitations of the claims. Faris teaches that the micropolarizer and the SMI may be placed on a display medium (76, Figure 15c), which may serve as the *transparent support member* however it does not teach explicitly to include protective layer (as in claims 27, 12 and 16) and adhesive layer. *Okamoto* in the same field of endeavor teaches a *polarizer* (18 in Figure 1) used with a liquid crystal display device wherein the polarizer layer (19, Figure 3) is interposed between a pair of TAC film (20 and 21) and is adhered via an *adhesive layer* (24) to a *transparent glass substrate* (9). The polarizer is also protected by a *protective film* (23), (please see Figures 1 and 3). It would then have been obvious to one having ordinary skill in the art to modify the micropolarizer (49) including the display image body (Figure 12H) of Faris to make it adhered to a glass substrate via an adhesive layer and to be covered with a protective layer for the benefit of easy adoption of the micropolarizer to the display device or display member for the stereoscopic viewing and for the benefit of protecting it from foreign dusts to enhance the viewing quality. Furthermore, with regard to claim 27, these references also do not teach explicitly that the protective film is attached to the resist members. However to attach the protective film to the resist members or to the TAC film as shown by the teachings of Okamoto does not change the function of the polarizer and the specification fails to teach the criticality of such will overcome any problem in the prior art such modification is considered to be obvious matters of design choice to one skilled in the art for the benefit of providing alternative arrangement for the polarizer. With regard to claim 2, these references also do not teach explicitly that the display device is at the side of protective member claimed however the modification only involves rearranging the parts of working

Art Unit: 2872

device and the orders really do not effect the functionality of the film and display device such modification therefore is considered to be obvious matters of design choice to one skilled in the art. With regard to claims 16, the protective film is inherently without birefringent property so that it does not interfere with the polarization property of the polarizer.

Faris teaches that the photoresist members has the identical function as the resist in the instant application for covering the PVA film and forming a pattern of the covering on the PVA film before the step of immersing it in hot water to form patterned polarization and non-polarization regions, (please see Figures 12a-12h). The laminated film having photoresist on specific regions of the PVA film as shown in Figure 12h, serves as the *image display body* having *phase difference functionality*. Faris teaches extra step to remove the photoresist after forming the micropolarizer. It would however have been obvious to one skilled in the art to skip such stripping step for the benefit of reducing manufacturing cost. It is implicitly true that the micropolarizer functions the same with or without the photoresist members present since the photoresist members do not have any polarizing effect and will not provide phase shift to provide retardation effect. The feature concerning the photoresist being stripped away or not is not an patentable feature rather is an obvious matters of design choice to one skilled in the art since film is already included in the process and method taught in the cited Faris reference. With regard to claims 17 and 22, Faris teaches that this laminated film (as shown in Figure 12h) has regions covered with photoresist member that impart polarizability to the light passes through and has regions not covered by the photoresist member that impose no polarizability to the light passes through.

With regard to claim 14, Faris teaches that the regions on the PVA film that are not covered by the resist are immersed in the how humid environment to loss the polarizability. This essentially means the molecules are relaxed by the hot humid environment in these regions.

Art Unit: 2872

With regard to the features concerning non-birefringence, (as claimed in claims 13, and 15), the TAC film and the image display body of Faris do not possess birefringence as the film in the instant application.

With regard to feature concerning the drawn PVA film, Faris teaches that the PVA film is stretched to obtain polarization property. Faris teaches that the PVA film is of 10-20 micron thick but it does not teach explicitly that it is of 38 micron. However the specification fails to teach the criticality of having this particular thickness will overcome any problem in the prior art and the micropolarizer *functions the same* as the instant application, such modification is therefore considered to be obvious matters of design choice for the benefit of providing different arrangement for the film.

With regard to claim 18, Faris teaches that the TAC or CAB film is of a thickness of 125 μm , which is essentially the same as 126 μm .

With regard to claim 21, Faris teaches the bleaching process for the PVA film to depolarize the uncovered regions is done by immersing the film in hot water based bleacher, however this reference does not teach explicitly that the immersing process is for 30 seconds at a temperature of 80 degrees Celsius. However since Faris is capable of forming the micropolarizer that functions the same as the instant application the process is therefore either implicitly included or obvious modification to one skilled in the art. Since the specification fails to teach the criticality of having this particular process will overcome any problem in the prior art, even if this process is not the same as in the prior art reference such modification would have been an obvious modification to one skilled in the art for the benefit of providing alternating way for forming the micropolarizer.

With regard to claims 20 and 24, Faris in a different embodiment, teaches that the laminated PVA film may be formed to have patterned π phase regions (67 in Figure 13e or 73, Figure 14e) such that the patterned film form a *half wave retarder*, (please see Figures 13a-13e). This means the patterned regions

Art Unit: 2872

(67 or 73) impart a phase difference of 180 degree to the light passes them as compared to the light passed the regions without the patterned film.

With regard to claims 25 and 26, Faris teaches that the photoresist members form strip or square forms with repeated filled (with) and unfilled (without) regions of the photoresist, (please see Figure 12h). Faris also teaches that the size of photoresist members determines the size of polarization regions of the micropolarizer, which should be corresponding to the pixel size of the display. The pixel size is about 0.1 mm which is about 100 μm , (please see column 7, line 60). As judging from Figures 16a and 16b, the pitch of the regions should also be of the size of the pixel. Although it does not specifically teaches it to be 160 μm , however since the idea is to have the polarization regions be corresponding to the image size, as taught by Faris, to modify the actual size of the polarization regions and the photoresist members is considered to be obvious matters of design choice since it has been held when the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With regard to claim 28, Faris teaches that the photoresist is not water based however it does not teach explicitly that the resist comprises urethane based resist ink. But such modification is considered to be an obvious matters of design choice to one skilled in the art since the photoresist in the cited reference functions the same as the instant application and it has been held it is within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended used as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Double Patenting

12. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

Art Unit: 2872

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

13. Claims 10 and 12-28 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 8-26 of copending Application No. 09/873,509. Although the conflicting claims are not identical, they are not patentably distinct from each other because they both recite a method for manufacturing a 3D image display body including the step of forming a laminated phase difference film by laminating a PAV film with a CAB or TAC film, the step of disposing resist members at specific locations, the step of providing protective film and the step of superposing it on a display member.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

14. Claims 10, 12-28 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of copending *Application No. 09/873,690*. Although the conflicting claims are not identical, they are not patentably distinct from each other because they both recite a method for manufacturing a 3D image display body including the step of forming a laminated phase difference film by laminating a PAV film with a CAB or TAC film, the step of disposing resist members at specific locations, the step of providing protective film and the step of superposing it on a display member.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

15. Applicant's arguments filed July 1, 2003 have been fully considered but they are not persuasive. The newly submitted claims have been fully considered and they are rejected for the reasons stated above.

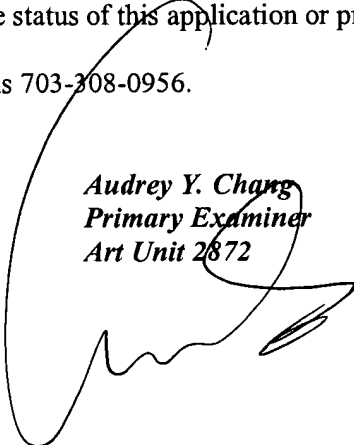
Art Unit: 2872

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 703-305-6208. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 703-305-0024. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Audrey Y. Chang
Primary Examiner
Art Unit 2872



A. Chang, Ph.D.